

Kentucky Department of Education - Course Standards

Course Code: 703040

Course Name: Elementary Technology Competency

Grade Level: 4-5



Upon course completion students should be able to:

Big Idea: Information, Communication and Productivity

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

Academic Expectations

- 1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
- 1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
- 3.3** Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.
- 6.1** Students connect knowledge and experiences from different subject areas.
- 6.3** Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.

Intermediate Enduring Knowledge – Understandings

Students will understand that

- appropriate terminology, computer operations and applications assist in gaining confidence in the use of technology.
- technology requires proper care and maintenance to be used effectively.
- a variety of media is used to support directed and independent learning.
- technology is used to communicate in a variety of ways including global communications.
- technology (e.g. keyboarding, word processing, spreadsheets, presentation) is used effectively and efficiently to accomplish a task.

Intermediate Skills and Concepts – Information

Students will

- investigate different technology devices (e.g., CPU, monitor, keyboard, disk drive, printer, mouse)
- describe the uses of technology (e.g., computers, telephones, cell phones, digital and video cameras, Internet) at home, school and workplace
- use appropriate technology terms (e.g., hardware, software, CD, hard drive)
- explain the use of networks and the need for login procedures (e.g., stand alone, network, file server, LANs network resources)
- demonstrate proper keyboarding techniques, optimal posture and correct hand placement (e.g., home row finger placement) at the computer workstation

Intermediate Skills and Concepts – Communication

Students will

- use technology to communicate in a variety of modes (e.g., audio, speech to text, print, media)
- participate in online group projects and learning activities using technology communications
- create a variety of tasks using technology devices and systems to support authentic learning
- use technology to collect data for content area assignments/projects
- use a variety of tools and formats (oral presentations, journals and multimedia presentations) to summarize and communicate the results of observations and investigations
- use online collaborative tools (e.g., email, videoconferencing)

Intermediate Skills and Concepts – Productivity

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Students will

- develop, publish and present information in print and digital formats
- use productivity tools to produce content area assignments/projects

Big Idea: Safety and Ethical/Social Issues

Students understand safe, ethical and social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

Academic Expectations

- 2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.
- 3.6** Students demonstrate the ability to make decisions based on ethical values.
- 4.3** Students individually demonstrate consistent, responsive, and caring behavior.
- 4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
- 4.5** Students demonstrate an understanding of, appreciation for, and sensitivity to a multi- cultural and world view.

Intermediate Enduring Knowledge – Understandings

Students will understand that

- responsible and ethical use of technology is necessary to ensure safety.
- technology is used in collaborative and interactive projects to enhance learning.
- acceptable technology etiquette is essential to respectful social interactions and good citizenship.
- technology is used in jobs and careers to support the needs of the local and global community.
- assistive technology supports learning to ensure equitable access to a productive life.

Intermediate Skills and Concepts – Safety

Students will

- explain the importance of safe Internet use (e.g., iSafe skills)
- apply safe behavior when using technology

Intermediate Skills and Concepts – Ethical Issues

Students will

- investigate basic issues related to responsible use of technology and describe personal consequences of inappropriate use (e.g., plagiarism, intellectual property, copyright and the conditions of Acceptable Usage Policy)
- explore, investigate and practice the use of technology in an appropriate, safe and responsible manner
- use ethical behavior while using technology in personal and community contexts

Intermediate Skills and Concepts – Social Issues

Students will

- use technology to collaborate and engage in interactive projects with others (e.g., local, national and global) and credit all participants for their contribution to the work
- use proper social etiquette with any technology (e.g., email, blogs, IM, telephone, help desk)
- investigate how assistive technologies supports learning
- explain how technology has had an influence on our world
- explain how technology supports career options and lifelong learning

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Big Idea: Research, Inquiry/Problem-Solving and Innovation

Students understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

Academic Expectations

- 1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
- 2.3 Students identify and analyze systems and the ways their components work together or affect each other.
- 5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
- 5.2 Students use creative thinking skills to develop or invent novel, constructive ideas or products.
- 5.4 Students use a decision-making process to make informed decisions among options.
- 5.5 Students use problem-solving processes to develop solutions to relatively complex problems.
- 6.1 Students connect knowledge and experiences from different subject areas.

Intermediate Enduring Knowledge – Understandings

Students will understand that

- technology assists in gathering, organizing and evaluating information from a variety of sources to answer essential questions.
- technology supports critical thinking skills used in inquiry/problem solving to make informed decisions.
- technology is used to produce an innovative product or system.

Intermediate Skills and Concepts – Research

Students will

- gather and use accurate information from a variety of electronic sources (e.g. teacher-selected web sites, CDROM, encyclopedias and automated card catalog, online virtual library; word processing, database, spreadsheet) in all content areas
- correctly cite sources
- evaluate the accuracy, relevance, appropriateness, comprehensiveness and bias of electronic information sources
- use technology tools to process data and report results
- use content-specific tools to enhance understanding of content (e.g., environmental probes, sensors, robotics, simulation software and measuring devices)

Intermediate Skills and Concepts – Inquiry/Problem-solving

Students will

- determine which technology is useful and select the appropriate tool(s) (e.g., calculators, data collection probes, videos, educational software) to inquire/problem- solve in self-directed and extended learning
- use technology to solve problems using critical thinking and problem-solving strategies
- solve content-specific problems using a combinations of technologies

Intermediate Skills and Concepts – Innovation

Students will

- use technology to organize and develop creative solutions, ideas or product

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Primary Enduring Knowledge – Understandings

Students will understand that

- ☐ responsible and ethical use of technology is necessary to ensure safety.
- ☐ technology enhances collaboration to contribute to a learning community.
- ☐ acceptable technology etiquette is essential to respectful social interactions and good citizenship.
- ☐ technology is used in jobs and careers to support the needs of the community.
- ☐ assistive technology supports learning to ensure equitable access to a productive life.

Primary Skills and Concepts – Safety

Students will

- ☐ explain the importance of safe Internet use (e.g., iSafe skills)
- ☐ use safe behavior when using technology

Primary Skills and Concepts – Ethical Issues

Students will

- ☐ use responsible and ethical behavior in using technology
- ☐ adhere to the Acceptable Use Policy (AUP) as well as other state and federal laws

Primary Skills and Concepts – Social Issues

Students will

- ☐ work cooperatively with peers, family members and others when using technology
- ☐ collaborate with peers, family members and others when using technology
- ☐ explain how technology is used in jobs and careers

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Primary Enduring Knowledge – Understandings

Students will understand that

- ☐ technology assists in gathering, organizing and evaluating information from a variety of sources to answer an essential question.
- ☐ technology is used to analyze real world data and support critical thinking skills through inquiry/problem-solving in order to produce results and make informed decisions.

Primary Skills and Concepts – Research

Students will

- ☐ use teacher-directed Internet sources as a resource for information
- ☐ use electronic resources to access and retrieve information

Primary Skills and Concepts – Inquiry/Problem-solving

Students will

- ☐ gather technology information/data and use for problem solving in all content areas
- ☐ describe at least one strategy for problem solving while using technology (e.g., inquiry/problem-solving software, troubleshooting technology issues)

Primary Skills and Concepts – Innovation

Students will

- ☐ use technology for original creations/innovation in classroom
- ☐ express creativity both individually and collaboratively using technology